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| 09/678,010      | 10/03/2000  | Martin James Lucas   | NAI1P157/00.091.01  | 4542             |

28875 7590 06/03/2004

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| EXAMINER |
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CHEN, SHIN HON

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| ART UNIT | PAPER NUMBER |
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2131

DATE MAILED: 06/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/678,010

Applicant(s)

LUCAS ET AL.

Examiner

Shin-Hon Chen

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***DETAILED ACTION***

1. Claims 1-30 have been examined.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-10, 11-13, 16-20, 21-23, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nachenberg U.S. Pat. No. 5826013 (hereinafter Nachenberg) in view of Banga et al. U.S. Pat. No. 6240447 (hereinafter Banga).

4. As per claim 1, 11, and 21, Nachenberg discloses a method of detecting computer viruses within a computer file (Nachenberg: column 1 lines 14-16), said method comprising the steps of:

- a. Receiving a request to scan a computer file for computer viruses (Nachenberg: column 11 lines 10-28);
- b. Initiating a virus scanning operation upon said computer file (Nachenberg: column 3 lines 3-53; column 11 lines 10-22);
- c. Calculating during said virus scanning operation a measurement value indicative of an amount of data processing performed during said virus scanning operation wherein

Art Unit: 2131

the measurement value is based on complexity of tests of the virus scanning operation (Nachenberg: column 2 lines 15-25);

d. Comparing during said virus scanning said measurement value with a threshold value (Nachenberg: column 1 line 63 – column 2 line 50); and

e. Triggering a break in said virus operation prior to completion of the tests to determine as to whether the computer file is infected, if said measurement value exceeds said threshold value to prevent overload of a virus scanner (Nachenberg: column 1 line 63 – column 3 line 53).

Nachenberg does not explicitly disclose said measurement value is based on a data size of the computer file. However, Banga discloses that limitation (Banga: column 7 lines 1-10). It would have been obvious to one having ordinary skill in the art to perform virus operation prior to completion of the tests based on the data size of the file to determine if further operation is required. Therefore, It would have been obvious to one having ordinary skill in the art to combine the teachings of Banga within the system of Nachenberg because it increases the efficiency by skipping a certain percentage of data without processed without affecting the result.

5. As per claim 2, 12, and 22, Nachenberg as modified discloses a method as claimed according to claims 1, 11, and 21 respectively. Nachenberg further discloses the method comprises the step of, upon occurrence of said break, determining using said measurement value whether or not said virus scanning operation should be terminated prior to completion (Nachenberg: column 3 lines 37-53).

Art Unit: 2131

6. As per claim 3, 13, and 23, Nachenberg as modified discloses a method according to claims 1, 12, and 22 respectively. Nachenberg does not explicitly disclose said measurement value yields a processed data size value for data processed during said virus scanning operation. However, Banga discloses that limitation (Banga: column 7 lines 1-10). It would have been obvious to one having ordinary skill in the art to combine the teachings of Banga within the system of Nachenberg because it increases the efficiency by skipping a certain percentage of data without processed.

7. As per claim 6, 16, and 26, Nachenberg as modified discloses a method according to claims 2, 12, and 22 respectively. Nachenberg does not explicitly disclose said measurement value yields a processed data size value for data processed during said virus scanning operation and step of determining is responsive to both said processed data size value and a computer file size value for said computer file when determining whether or not said virus scanning operation should be terminated prior to completion. However, Banga discloses that limitation (Banga: column 7 lines 1-10). Same rationale applies here as above in rejecting claim 3.

8. As per claim 7, 17, and 27, Nachenberg as modified discloses a method according to claims 6, 16, and 26 respectively. Banga further discloses said step of determining calculates a measurement ratio of said processed data size value to said computer file size value and compares this with a termination size threshold ratio such that said virus scanning is terminated if said measurement ratio exceeds said termination size threshold ratio (Banga: column 7 lines 1-10). Same rationale applies here as above in rejecting claim 3.

9. As per claim 8, 18, and 28, Nachenberg as modified discloses a method as claimed according to claims 1, 11, and 21 respectively. Nachenberg further discloses said virus scanning operation applies a plurality of the tests to said computer file, each test having an complexity value indicative of an amount of data processing associated with that test and said measurement value is a sum of complexity values for tests applied during said virus scanning operation (Nachenberg: column 1 lines 63 – column 2 line 50; column 6 lines 32-40).

10. As per claim 9, 19, and 29, Nachenberg as modified discloses a method as claimed according to claims 8, 18, and 28 respectively. Nachenberg further discloses said plurality of test applied are selected in dependence upon said computer file (Nachenberg: column 1 line 18 – column 2 line 50; column 6 lines 32-40).

11. As per claim 10, 20, and 30, Nachenberg as modified discloses a method a method as claimed according to claim 2, 12, and 22 respectively. Nachenberg further discloses said virus scanning operation applies a plurality of tests to said computer file, each test having an complexity value indicative of an amount of data processing associated with that test, and said step of determining terminating said virus scanning operation prior to completion if said complexity exceeds a termination complexity threshold value (Nachenberg: column 1 line 63 – column 2 line 50; column 6 lines 32-40). Nachenberg inherently disclose said measurement value being a sum of complexity values for tests applied during said virus scanning operation and determining terminating said virus scanning operation prior to completion if said sum of

Art Unit: 2131

complexity values exceeds threshold. Therefore, Nachenberg discloses the complexity of heuristics will affect the efficiency of the system and should be treated carefully. It would have been obvious to one having ordinary skill in the art to use the complexity of the heuristics as threshold to increase the efficiency of the system.

12. Claims 4, 5, 14, 15, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nachenberg in view Banga and further in view of Cozza U.S. Pat. No. 5649095 (hereinafter Cozza).

13. As per claims 4, 5, 14, 15, 24, and 25, Nachenberg as modified discloses a method according to claim 1, 11, and 21 respectively. Nachenberg as modified does not explicitly disclose said amount of data processing performed includes data processing involved in any decompression of said computer file required for said virus scanning operation. However, Cozza discloses that limitation (Cozza: figure 4d and column 6 lines 6-45). It is well known in the art to decompress a file to its original content before using it. Therefore it would have been obvious to one having ordinary skill in the art to combine the teachings of Cozza within the combination of Nachenberg-Banga because it allows the virus detection system to scan the original data after decompression.

### ***Response to Arguments***

14. Applicant's arguments with respect to claim 1, 2, 8, 9, 11, 12, 18, 19, 21, 22, 28, and 29 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2131

15. Regarding claims 10, 20, 30, the applicant states that Official Notice is invoked. However, the previous action states that Nachenberg discloses taking the sum of the heuristics obtained to determine whether the further process should continue which meets the limitation claimed by applicant. Therefore, it has showed the subject matter as claimed.

***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen et al. U.S. Pat. No. 5960170 discloses event triggered iterative virus detection and minimize the amount of data required to be scanned by using the amount of data as comparison data (summary and column 12 lines 36-54).

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



Art Unit: 2131

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

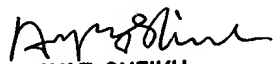
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shin-Hon Chen whose telephone number is (703) 305-8654. The examiner can normally be reached on Monday through Friday 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (703) 305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shin-Hon Chen  
Examiner  
Art Unit 2131

SC

  
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